

OCEAN CLASSROOM LIVE!

Hurricanes 101 (Episode 11)

EDUCATOR SUPPORT MATERIALS

THE
UNIVERSITY
OF RHODE ISLAND
GRADUATE SCHOOL
OF OCEANOGRAPHY

As we approach the end of available names in the World Meteorological Organization's 2020 Atlantic hurricane list (and begin to name hurricanes based on the Greek alphabet), it's clear that this will be a year (2020) for the record books. For this episode of Ocean Classroom (Live!) hear about this historic hurricane season, how scientists model hurricane hazards, and tips for how all of us can be more hurricane prepared. Xuanyu Chen, postdoctoral fellow at the URI Graduate School of Oceanography, Christopher Knowlton of the Inner Space Center and host Holly Morin of the Inner Space Center talk about all things hurricane!

Discussion Questions

- How are hurricanes formed?
- What can you do to prepare if a hurricane is forecasted to impact your area?
- What are the effects of storm surge?

Resources

Graduate School of Oceanography

As one of the nation's premier academic oceanographic institutions, the University of Rhode Island's Graduate School of Oceanography (GSO) educates marine scientists, students, policymakers, business leaders and citizens and helps develop the knowledge and skills necessary to address present and future marine challenges.

- GSO: <https://web.uri.edu/gso/>
- Inner Space Center: <http://innerspacecenter.org/>
- Rhode Island Teachers At Sea:
<https://web.uri.edu/gso/research/outreach/rhode-island-teachers-at-sea-program/>
- Narragansett Bay Classroom: <https://web.uri.edu/gso/research/outreach/narragansett-bay-classroom/>
- GSO Facebook: <https://www.facebook.com/URIGSO/>
- Meet Xuanyu: <https://web.uri.edu/gso/meet/xuanyu-chen/>
- Hurricanes: Science and Society- <http://www.hurricanescience.org/>
- Ginnis Hurricane Research Group: <https://web.uri.edu/hurricane-research/>

Other Resources

- National Hurricane Center FAQ: <https://www.nhc.noaa.gov/faq.shtml>
- NOAA National Storm Surge Hazard Maps: <https://noaa.maps.arcgis.com/apps/MapSeries/index.html?appid=d9ed7904dbec441a9c4dd7b277935fad&entry=1>
- National Hurricane Center Storm Surge Overview: <https://www.nhc.noaa.gov/surge/>
- NOAA Office of Marine and Aviation Operations: <https://www.oma.noaa.gov/learn/aircraft-operations>
- National Hurricane Center Storm Surge Intro: https://www.nhc.noaa.gov/surge/surge_intro.pdf
- FEMA, Ready.gov, emergency supply kit:
https://www.ready.gov/sites/default/files/2020-03/ready_emergency-supply-kit-checklist.pdf
 - Hurricane preparedness geared for kids/families/seniors: <https://www.ready.gov/kids>

Suggested Standards

[*Next Generation Science Standards*](#) K-12 Performance Expectations relating to collecting data, ecosystems/animals.

Elementary School

K: Earth's Systems

- K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.

K: Earth and Human Activity

- K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

Grade 2: Earth's Systems

- 2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

Grade 3: Earth's Systems

- 3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
- 3-ESS2-2. Obtain and combine information to describe climates in different regions of the world.

Grade 3: Earth and Human Activity

- 3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Grade 5: Earth and Human Activity

- 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Middle School

MS: Earth & Human Activity

- MS-ESS3-2. Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects

High School

HS: Earth and Human Activity

- HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

Ocean Literacy Principles

OLP3: The Ocean is a major influence on weather and climate